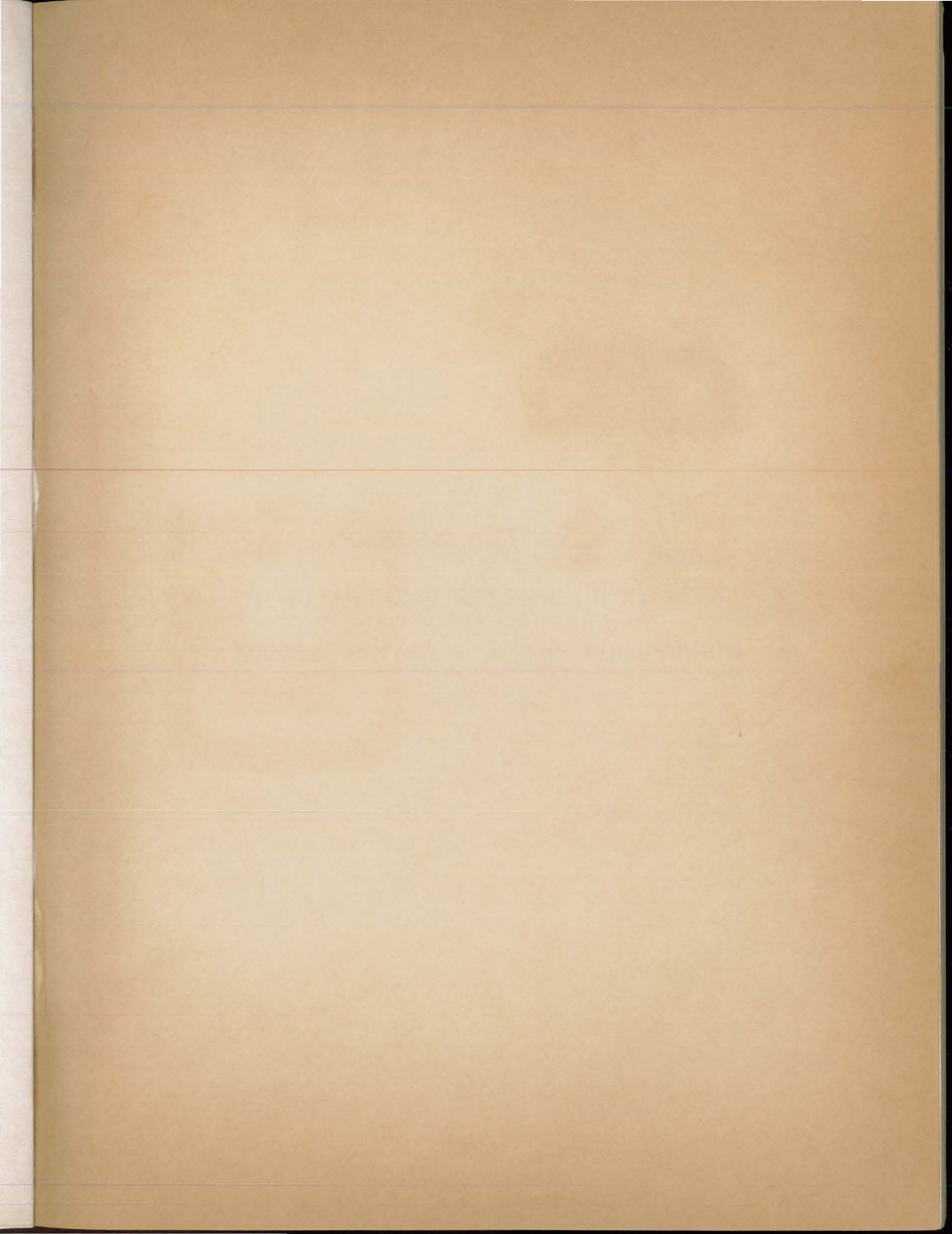


COMMAND HISTORICAL REPORT
1987
OPNAV REPORT 5750.1



U.S. NAVAL MEDICAL RESEARCH UNIT NO. 2
APO SAN FRANCISCO 96528-5000

LARRY W. LAUGHLIN, CAPT, MC, USN
COMMANDING OFFICER



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COMMAND HISTORY OF
NAVAL MEDICAL RESEARCH UNIT NO. 2
MANILA, REPUBLIC OF THE PHILIPPINES



CAPTAIN LARRY W. LAUGHLIN, MC, USN

COMMANDING OFFICER

Commanding Officers and Dates of Commands

	<u>From</u>	<u>To</u>
Captain Robert A. PHILLIPS	13 Sep 1955	30 Oct 1965
Captain Raymond H. WATTEN	30 Oct 1965	29 Jul 1974
Captain P.F. Dirk VAN PEENEN	29 Jul 1974	1 Oct 1976
Captain Kurt SORENSEN	1 Oct 1976	1 Jul 1980
Captain William H. SCHROEDER	1 Jul 1980	20 Jan 1984
Captain Vernon D. SCHINSKI	20 Jan 1984	5 Jul 1985
Captain Larry W. LAUGHLIN	5 Jul 1985	

TABLE OF CONTENTS

	Page
Part I. COMMAND MISSION AND ORGANIZATION	
Command History	5
Command Mission, Functions and Task	8
Command Organizational Chart	9
Command Relationships	10
Military Staffing	11
Civilian Staffing	12
Part II. DIVISION SUMMARIES	
Manila Scientific Department	
Entomology Division	14
Microbiology Division	16
Parasitology Division	18
Tropical Medicine Division	21
Virology Division	24
Jakarta Scientific Department	
Entomology Division	27
Immunology Division	29
Microbiology Division	30
Parasitology Division	32
Tropical Medicine Division	34
Virology Division	36
Research Support Department	
Research Support Department - Manila	38
Research Support Division - Jakarta	39
Finance and Supply Division	40
Part III. AWARDS, HONORS AND NOTABLE EVENTS	
Awards and Honors	43
Notable Events	44
1987 Field Trips - Philippines	50
1987 Field Trips - Jakarta	55
Part IV. DISTINGUISHED VISITORS AND FELLOWS	
Distinguished Visitors to Manila Headquarters	57
Distinguished Visitors to Jakarta Detachment	61
Research Fellows and Trainees	62
Part V. PUBLICATIONS	64
PART VI. FUNDED RESEARCH WORK UNITS	
Funded Research Work Units - Manila	70
Funded Research Work Units - Jakarta	70
PART VII. HISTORY OF SAN LAZARO HOSPITAL	72

PART I

COMMAND MISSION

AND

ORGANIZATION

HISTORY OF THE
U.S. NAVAL MEDICAL RESEARCH UNIT NO. 2
THE REPUBLIC OF THE PHILIPPINES

The U.S. Naval Medical Research Unit No. 2 (NAMRU-2) had its beginnings under the Rockefeller Institute on Guam during World War II (1942-1946). Its primary function was, as it remains today, to study infectious diseases of potential military significance in Asia. In 1955, the Unit was reestablished in Taipei, Taiwan, Republic of China, where it functioned with distinction for twenty-nine years. As a leading biomedical laboratory in Asia, NAMRU-2 was frequently requested to provide assistance in other Asian countries for training and for expertise in epidemiology, treatment and control of various infectious disease problems. These collaborative efforts led to the establishment of a detachment in Vietnam (1965), a detachment in Jakarta, Indonesia (1970) and finally to the transfer of the parent laboratory to Manila, Republic of the Philippines (1979).

NAMRU-2's beginnings in Jakarta were involved with a study of arboviral diseases in 1963. In 1968, an outbreak of Bubonic plague in Central Java prompted the Indonesian government to request assistance. NAMRU-2 joined a U.S. Public Health Service team and together they brought the outbreak under control and established eradication and surveillance programs. Following the success of these programs, the Indonesian health authorities requested that NAMRU-2 establish a permanent research laboratory in Indonesia. On 16 January 1970, negotiations were completed and a permanent detachment (NAMRU-2 DET) was established in Jakarta. In the intervening years, research efforts had included a study of leptospirosis in South Sumatra, serological surveys and hemoglobin determinations in Bali and Makassar, and zoonosis, filariasis and biomedical surveys in Sulawesi.

During the late 70's a new primate filarid parasite (Wuchereria kalimantani) was discovered, a species very similar to the human parasite W. bancrofti. This observation opened the doors to the long sought after animal model for bancroftian filariasis. During the next few years this animal model system was fully developed and stands as one of the major accomplishments of the laboratory.

The 80's were ushered in with the signing of a new five-year working agreement with NIHRD which identified manpower development, institutional building and research and surveillance of infectious diseases as NAMRU goals. The tone of research began to change from broad surveillance to focusing on specific questions about identified disease entities. Typhoid fever was noted to have a specific subset of patients with cerebral manifestations and a very high fatality rate. A prototype double blind randomized clinical trial lead to the new discovery that high dose dexamethasone dramatically reduced mortality in severe typhoid fever. Large steps were taken in the discovery of the pathogenesis of typhoid fever which pointed to toxic agents produced by the macrophage immune cell.

Malaria became a prominent disease research area of the 80's. Drug resistance mapping was completed, in vitro continuous malaria culturing was established, cerebral malaria was clinically defined and major efforts were made to discover the mechanism of natural immunity to malaria. It was noted that the mechanism of malaria immunity in central Indonesia and northern Africa were different, an observation that may have great impact on the current development of a malaria vaccine. Simultaneously studies in tropical splenomegaly syndrome (chronic malaria) revealed that this subset of patients produced a serum factor that is toxic to suppressor T lymphocytes which lead to an immunological imbalance resulting in massive splenomegaly.

Filariasis research took an immunological slant with the observations that patients with persistent disease and long term complications also expressed a parasite induced immunological defect. These data appear to be confirmed by a similar defect found in the primate model system. This represents a significant step in elucidation of the cause and effects of chronic filariasis.

At the request of WHO, NAMRU tested a new citrate based oral rehydration solution for patients with acute secretory diarrhea. This clinical trial proved that the new less expensive, more stable ORS was better therapy. WHO has changed their world-wide recommendations for the treatment of diarrhea based on this study and NAVMEDCOM will likely follow suit. This study also produced a new rapid diagnostic assay for cholera which can be easily incorporated into field deployable forces medical armamentarium.

NAMRU-2's relationship with the Philippines is one of long standing. Early investigations involved outbreaks of infectious diseases at U.S. bases such as problems with amebiasis at Cubi Point, Naval Air Station where work was carried out among naval and indigenous populations. An epidemic of cholera in Manila during 1961 brought NAMRU-2 and the Philippine Department of Health together for what has proven to be a long standing and mutually beneficial relationship. NAMRU-2 staff working with colleagues at San Lazaro Hospital modified and improved methods for treating cholera and developed oral rehydration therapy which has become a standard treatment for cholera and other diarrheal diseases and remains a major World Health Organization program to this day.

In 1966, NAMRU-2 returned to Manila to assist with an epidemic of dengue hemorrhagic fever. Then in early 1967, a new "mystery disease" was reported causing severe illness and death in the northwestern portion of Luzon. Teams of NAMRU-2 epidemiologists and parasitologists worked with Department of Health counterparts to discover that the disease was caused by a nematode parasite, Capillaria philippinensis. The life history of the parasite and the route of infection through eating small uncooked fish were discovered. Treatment of capillariasis was established and research efforts led to education and surveillance programs for control of the disease.

Other studies in the Philippines have included work on leptospirosis, scrub typhus, abnormal hemoglobins, amebiasis, diarrheal diseases, malaria, filariasis and schistosomiasis. A summary of biomedical surveys covering tens of thousands of subjects from hundreds of sites on all the major islands of the Philippines has just been published by Dr. John Cross of NAMRU-2 and Dr. Virginia Basaca-Sevilla of the Bureau of Research and Laboratories, our main basic science collaborator. This volume summarizes much of the epidemiology of diseases of military importance in the Philippines and signals a change in emphasis from epidemiology to pathophysiology, rapid diagnosis, treatment and control.

It is no wonder when politics called for NAMRU-2 to leave Taiwan that the command automatically turned to their frequent collaborators in the Philippines to identify a new location. This officially occurred on 15 April 1979. Laboratories and other facilities are established at the Bureau of Research & Laboratories and San Lazaro Hospital, the main infectious disease hospital, both located on the Department of Health compound in Santa Cruz, Manila. In addition to permanently establishing our relationships with the Philippine Department of Health, this move to the Philippines has enabled NAMRU-2 to establish close collaborative ties to Subic Naval Station and Clark Air Force Base. NAMRU-2 researchers are also able to take advantage of collaborative efforts with the Peace Corps, the Embassy Health Clinic, the Philippine Army Medical Department, and several Philippine universities and hospitals interested in infectious disease research.

COMMAND MISSION, FUNCTIONS, AND TASK

The purpose of the U.S. Naval Medical Research Unit No. 2 is to promulgate the mission, functions, and tasks of the Naval Medical Research Unit No. 2, Manila under the mission established by OPNAVNOTE 5450 Ser 09BS26/144097 of 27 Feb 29.

The mission of the Navy Medical Research Unit No. 2, as assigned by the Navy, are to:

Conduct research, development, test, and evaluation in infectious diseases to enhance the health, safety, and readiness of Navy and Marine Corps personnel in the effective performance of peacetime and contingency missions in Southeast Asia, and to perform such other functions or tasks as may be directed.

Functions of NAMRU-2, as directed by the Commanding Officer, Naval Medical Research and Development Command, Bethesda, MD and under the cognizance of the Commander, Naval Medical Command, are to:

a. Conduct research programs in infectious disease which directly relate to military medical requirements and operational needs.

b. Conduct interactive biomedical research with Navy and other Department of Defense medical research and development laboratories, specifically in the areas of preventive medicine and epidemiology, and tropical medicine and infectious diseases.

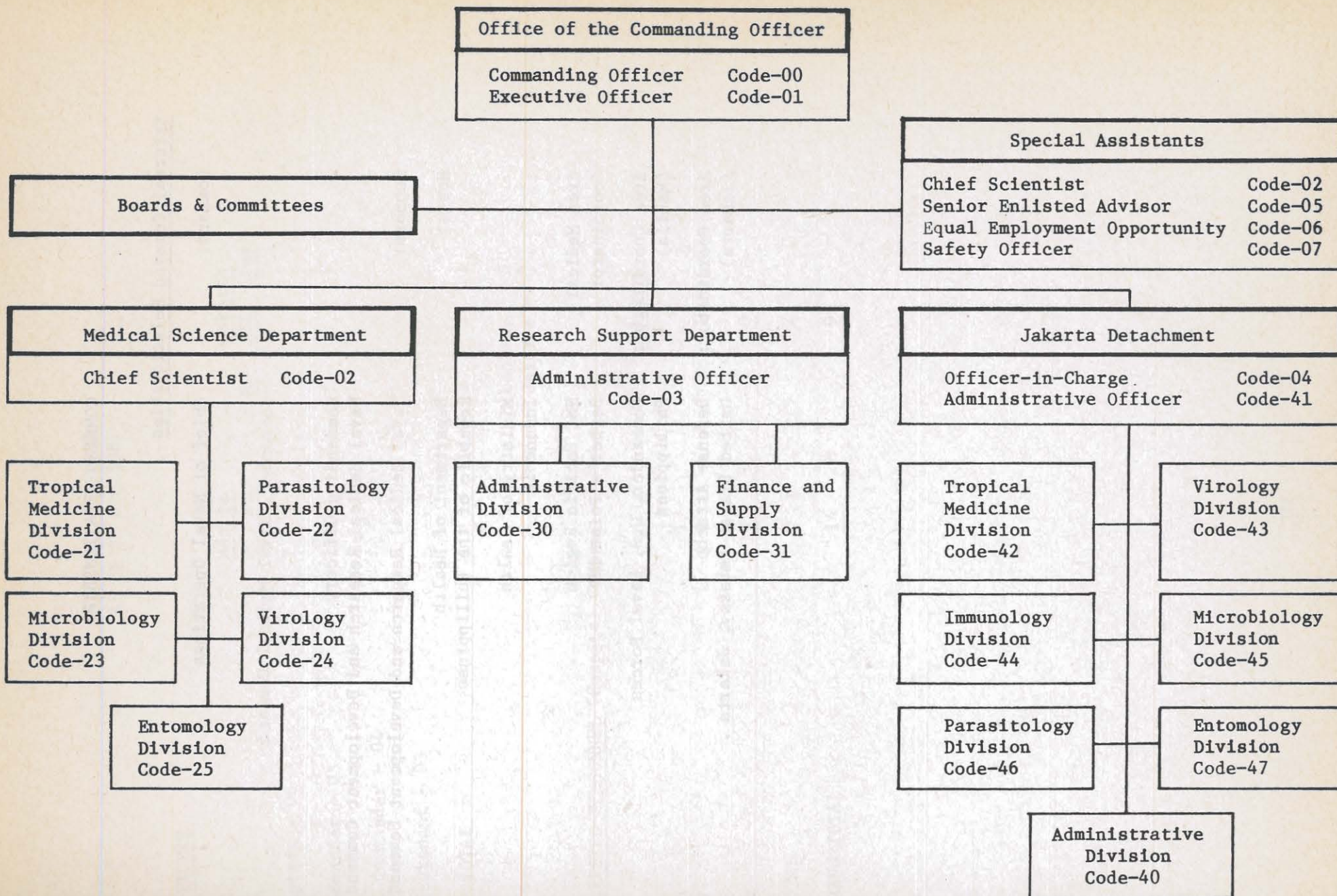
c. Develop and maintain the capability to provide infectious disease risk assessment information and conduct research and development to improve the prevention, diagnosis, and treatment of infectious diseases in the Fleet Marine Corps.

d. Maintain a technology base and scientific and technical expertise in infectious disease and tropical medicine to provide advisory assistance when requested.

e. Provide or undertake such other appropriate functions as may be authorized or directed.

NAMRU-2 Task:

Direct, manage, and support the U.S. Naval Medical Research Unit No. 2 Detachment, Jakarta, Indonesia.



DATE:	APPROVED: <i>[Signature]</i> C.W. LAUGHLIN CAPT MC USN	COMMAND RESPONSIBILITY: NAVMEDRSCHDEVCOM	AREA COORDINATOR: COMUSNAVPHIL	U.S. NAVAL MEDICAL RESEARCH UNIT NO. 2 MANILA, REPUBLIC OF THE PHILIPPINES
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COMMAND RELATIONSHIPS

External Command Relationships

Command:	Chief of Naval Operations
	Commander, Naval Medical Command
	Commanding Officer, Naval Medical Research and Development Command
Support:	Naval Medical Research and Development Command
Hosts:	Department of Health Republic of the Philippines
	Ministry of Health Indonesia
Area Medical Coordinator	NMC Pacific Region Barber's Point HI
Area Coordinator: (Manila)	Commander, U.S. Naval Forces Philippines
Area Coordinator: (Jakarta)	Defense Attache United States Embassy, Jakarta

MILITARY STAFFING
AS OF 31 DEC 1987

OFFICERS

	<u>Manila</u>			<u>Jakarta</u>	
	<u>MC</u>	<u>MSC</u>	<u>MC</u>	<u>MSC</u>	<u>Army</u>
Captain - 06	1				
Commander - 05			1		1
LT Commander - 04		1			
Lieutenant - 03	-	<u>4</u>	-	<u>5</u>	-
TOTAL	1	5	1	5	1
				Manila = 6	
				Jakarta = 7	

ENLISTED PERSONNEL (Hospital Corps)

	<u>Manila</u>	<u>Jakarta</u>
E8	1	
E7	2	1
E6	5	1
E5	<u>0</u>	<u>0</u>
TOTAL	8	2
GRAND TOTAL	<u>14</u>	<u>9</u>

CIVILIAN STAFFING
AS OF 31 DEC 1987

	<u>Manila</u>	<u>Jakarta</u>
<u>U.S. Civilian</u>		
GM 14	1	
High grades	(1) vacancy	-
GS 12	<u>1</u>	<u>-</u>
TOTAL	3	

Foreign Service Nationals

Grade

12	3	1
11	-	-
10	-	1
9	* vacant	3
8	2	5
7	9	5
6	21	3
5	3	9
4	2	8
3	3	19
2	<u>-</u>	<u>1</u>
TOTAL	43 *2 vacancies	55

CONTRACT (PSC)

3	1
2	1
1	<u>7</u>
GRAND TOTAL	<u>46</u> <u>64</u>

PART II

DEPARTMENTAL SUMMARIES

MANILA SCIENTIFIC DEPARTMENT

ENTOMOLOGY DIVISION - Manila

Mission: To investigate insect transmitted diseases of military importance in Asia; to study adult and larval behavior and habitats of vectors; to maintain a mosquito insectary for experimental use; to identify arthropods of medical importance; to test and evaluate equipment of importance to DOD vector control programs.

Current Research Interests:

- Determine presence of Japanese encephalitis vectors at a site in Central Luzon; study seasonal population changes in relation to weather and rice-growing practices; study biting preference, flight activity, resting habits, and ovipositional behavior.
- Study the effects of weather on the population dynamics of dengue vectors in Manila; correlate vector activity to reported dengue cases.
- Investigate ovipositional preference, biting activity, and dispersal of Aedes albopictus.
- Determine malaria vectors in and around the Subic Bay Naval Reservation; study seasonal population changes in relation to weather; study larval and adult bionomics.
- Study malaria vectors at several sites in Palawan; determine seasonal population trends, biting and resting behavior, and larval sites and possible species subpopulations.

Accomplishments:

- Biweekly field trips to a site endemic for Japanese encephalitis have shown clear relationships of population changes due to rainfall and irrigation practices.
- Large numbers of each potential Japanese encephalitis vector have been collected and preserved for virus isolation assay.
- Flight activity and larval habitats are being characterized for each potential Japanese encephalitis vector to enable control activities to be more efficient and economical.

- Breeding preferences of both Aedes aegypti and Ae. albopictus, collected from several sites in Manila, have been characterized and their populations monitored.
- Long term malaria vector studies were conducted at 7 sites near Subic Bay and showed population trends closely related to rainfall.
- Malaria risk potential in liberty areas around Subic Bay was evaluated and shown to be minimal.
- The behavior of An. flavirostris is now better understood with regard to its biting, oviposition, and resting habits. This information is being used to modify control and prevention practices.

Presentations by LT Schultz in 1987:

- "Malaria at Napsan, Palawan, Republic of the Philippines: Entomological finding." Southeast Asian Regional Laboratory Meeting, Baguio City, Philippines, 10 June 1987.
- "Malaria vectors at Napsan, Palawan, Republic of the Philippines," Entomological Society of America, Boston, Massachusetts, 2 December 1987.

MICROBIOLOGY DIVISION - Manila

Mission: To carry out research and development on bacterial and other selected diseases of military importance in Southeast Asia; to obtain data relating to prevalence of bacterial and other selected pathogens, epidemiology, drug resistance, treatment and prevention of microbial infections; to develop up-to-date technology for the rapid diagnosis of microbial infections; to identify and characterize future test sites for vaccines currently being developed by agencies of the Department of Defense; and to maintain a basic clinical microbiological laboratory to support the missions of the other laboratories within the command.

Current Research interests:

- Development of techniques to study the gut immune response to invasion by selected enteric pathogens.
- Determination of the etiologic agents of diarrheal disease endemic to the Philippines.
- Determination of the etiologic agents of travelers diarrhea among selected groups transiting the Philippines.
- Application of in vitro Cryptosporidium system to study immunobiology of the organism utilizing electron microscopy techniques.

Accomplishments:

- Completed gut immunity study involving diarrhea patients at San Lazaro Hospital, Manila.
- Completed collaborative study with Hospital of the Infant Jesus, Sampaloc, Manila on infant diarrhea.
- Completed collaborative study with Dr. Edward Janoff, VA Medical Center, Minneapolis, Minnesota, on measles diarrhea.
- Completed Cryptosporidium survey on Palawan.
- Initiated study on the potential of cockroaches to act as mechanical vectors of Cryptosporidium.
- Continue attempts to cultivate Cryptosporidium in vitro using primary cell cultures and organ explant techniques.

- Completed immunoelectron microscope study of human antibody binding sites to Cryptosporidium oocysts and sporozoites, utilizing the facilities at Tripler Army Medical Center, Hawaii.
- Continued upgrading of clinical microbiology laboratory.

Presentations by LT M. A. Laxer in 1986:

- "Cryptosporidiosis in the Philippines", The Philippine Pediatric Society, 24th Annual Convention, Manila, May 1987.
- "Cryptosporidiosis in the Philippines", Southeast Asian Laboratory Conference, Baguio, June 1987.
- "Cryptosporidiosis in the Philippines", Manila Central University Symposium Series, Manila, August 1987.
- "Cryptosporidiosis in the Philippines", The Philippine Society for Microbiology and Infectious Diseases, 10th Annual Convention, Manila, November 1987.
- "Cryptosporidiosis in the Philippines", (Poster), The American Society of Tropical Medicine and Hygiene, 36th Annual Meeting, Los Angeles, California.

PARASITOLOGY DIVISION - Manila

Mission: To conduct research and development for the study of epidemiology, immunology and chemotherapy of parasitic diseases of military importance in the Philippines; to conduct research and development of rapid diagnostic tests; to maintain state-of-the-art diagnostic support capabilities for parasitic diseases; and to identify and study areas endemic for parasitic diseases of particular interest to the military.

The principal area of interest currently is malariology including diagnostic test development, prospective field studies for development of a potential vaccine test site, and longitudinal based laboratory immunology.

Current Research Interests:

- Immunodiagnostic test for malaria using a monoclonal antibody in an enzyme linked immunosorbent assay.
- Evaluation of natural immunity to malaria through longitudinal studies carried out at a field site on the island of Palawan. This work includes, in cooperation with the Entomology Division, the collection of demographic data, vector studies, and epidemiology necessary to future immunoprophylaxis development.
- Adaptation of Philippine strains of P. falciparum to continuous culture for in vitro studies of antibody reactivity in indigenous population, characterization of malaria antigens, and drug studies.
- Assay drug sensitivity of P. falciparum to antimalarials in vitro.
- Perform in vitro serum inhibition assays using immune sera from various endemic areas in the Philippines to determine antibody or serum factors in the sera which are able to inhibit growth of falciparum malaria.
- Conduct routine surveys of intestinal parasite prevalence for monitoring purposes.

Accomplishments:

- Completed an immunological study of antibody reactivity to the vaccine candidate circumsporozoite protein (R32tet32) of the P. falciparum sporozoite. Results show that 58.6% of the population are positive for the antibody and that prevalence of IgG antibody to R32tet32 appears to be age dependent. The antibody, however, is shortlived and may not be protective although it may become significant in repeated exposure to the parasite.
- Since completion of the construction of a field laboratory facility in barangay Napsan in the island of Palawan on October 23, 1986, over 3,900 serum specimens have been collected on a three-month interval. Malarial smears indicate prevalence of falciparum malaria to range from 9.0% to 20.8% and that of vivax malaria from 9.0% to 11.4% with the onset of rainfall. These figures make the site an ideal place for chemoprophylaxis and immunoprophylaxis studies.
- Adapted numerous strains of P. falciparum from various areas of the Philippines, including a major field site on Palawan, to continuous culture. Immunological studies are performed using these strains of parasites.
- In vitro drug monitoring assays have identified a reduction in sensitivity to amodiaquine with a corresponding increase in sensitivity to chloroquine.
- Serum inhibition assays using Philippine strains of P. falciparum have shown that antibodies rather than serum factors are more significant in growth inhibition of the parasite. Also, immune sera taken from the same area as the parasite (homologous sera) are more inhibitory than heterologous sera, indicating parasite variability within the Philippines.

Presentations by members of the Parasitology Division in 1987:

LCDR R. B. Oberst:

- "Malaria research program", presented to Vietnamese Refugee Camp Health Officials and City Health Officials of Puerto Princesa City, Palawan, January 1987

Dr. N. E. Sy:

- "Hepatitis", Veterans Memorial Hospital, Manila, 26 January 1987.

TROPICAL MEDICINE DIVISION - Manila

Mission: To carry out research and development on tropical and infectious disease problems of military importance in the Philippines; to investigate in detail the clinical signs and symptoms, pathophysiology, diagnosis and treatment of tropical diseases; to provide biochemical, hematological and parasitological support for all other divisions through the clinical laboratory.

Current Research Interests:

Malaria

- Epidemiology of malaria in high risk populations including the Negrito population of Bataan, and to provide support to Palawan malaria study conducted by the Parasitology Division.

Gonorrhea/Sexually Transmitted Diseases

- Surveillance of drug resistant gonorrhea in the Subic Bay area in conjunction with the Occupational Health - Preventive Medicine Program at Subic Naval Base.
- Determination of current drug resistance patterns of gonococcal isolates to standard antibiotics. In vitro testing for sensitivity using new antibiotics including quinolones and trospectinomycin.
- Epidemiology of pharyngeal gonorrhea and chlamydia in the Subic Bay area. Testing of current approved regimens for therapy of pharyngeal gonorrhea.

Melioidosis

- Epidemiology of melioidosis in high risk groups in the Philippines.

Others

- Surveillance of acute diarrheal diseases in San Lazaro Hospital.
- Investigations on the development of mucosal immunity in invasive amebiasis.

Accomplishments:

Malaria

- Completed the second phase of the Pundakit field study evaluating different malaria chemoprophylactic agents.

- Successfully completed a biomedical survey of the Negrito population of Bataan, providing data on malaria prevalence as well as other tropical diseases.

Gonorrhea

- Assembled a new laboratory in the Tropical Medicine Division, dedicated to confirmatory testing of gonococcal isolates and to the performance of mean inhibitory concentration determination.
- Performed first drug sensitivity testing study with 93 confirmed isolates from the Subic Bay area. Current levels of drug resistance were determined according to protocols recommended by the Centers for Disease Control. Spectinomycin resistance found in 23% of non-treatment failure gonococcal isolates.

Leptospirosis

- Demonstrated that both the IgM-specific Dot ELISA and the genus specific microagglutination test are sensitive and specific in diagnosing leptospirosis in clinically suspected cases.

Snakebite

- Demonstrated that tourniquet release in patients bitten by the Philippine cobra should be done very gradually after they reach the hospital to reduce the possibility of their symptoms rapidly worsening.

Melioidosis

- Technology transfer of a melioidosis IHA testing procedure in collaboration with Mahidol University, Bangkok, Thailand. Completed a first phase screening of high risk populations to determine the prevalence of melioidosis.

Diarrheal Diseases

- Found 15% of acute diarrheal cases admitted to San Lazaro Hospital due to Cryptosporidiosis.

Others

- Continued upgrading the clinical laboratory.

Presentations by members of Tropical Medicine Division for the year 1987:

LCDR G. Watt:

- "Schistosomiasis", San Lazaro Hospital, Manila, 23, January 1987.

- "Snakebite", San Lazaro Hospital, Manila, 30 January 1987.
- "HIV and AIDS in the Philippines and Southeast Asia", Tropical Medicine and STD Seminar 1987, CINCCPACFLT, Hawaii, 17 February 1987.
- "Malaria in the Philippines and Southeast Asia", Tropical Medicine and STD Seminar 1987, CINCCPACFLT, Hawaii, 20 February 1987.
- "Japanese B encephalitis, dengue and other arboviruses in the western Pacific", Tropical Medicine and STD Seminar 1987, CINCCPACFLT, Hawaii, 20 February 1987.
- "Snakes and snakebite", International School, Metro Manila, 25 February 1987.
- "Snakebite in the Philippines", International School, Metro Manila, 18 March 1987.
- "T.B. meningitis", Manila Children's Hospital, 19 March 1987.

Dr. P. Joyce:

- "Diagnosis and treatment of malaria", Wednesday Noon Conference (CME), Subic Naval Hospital, 11 February 1987.
- "Diagnosis and treatment of malaria" Practical Pediatrics in the Pacific Conference, sponsored by Clark AFB Hospital at San Lazaro Hospital, Department of Health Compound, 12 February 1987.
- "Laboratory diagnosis of amebiasis", Philippine Association of Medical Technologists, Pagsanjan Falls, 15 February 1987.
- "The laboratory diagnosis of amebiasis", Organization of Medical Technology Interns, University of Santo Tomas, 30 July 1987.
- "AIDS and other sexually transmitted diseases", Organization of Medical Technology Interns, University of Santo Tomas, 30 September 1987.
- "Serodiagnosis of amebiasis", PSMID Cebu Chapter Scientific Meeting, Cebu City, 2 October 1987.
- "Diagnosis of amebiasis", PSMID 10th Annual Convention, Manila, 27 November 1987.

VIROLOGY DIVISION - Manila

Mission: To conduct research and development on viral diseases of military importance in the Philippines in the areas of epidemiology, clinical presentation and laboratory diagnosis.

Current Research Interests:

- To investigate the epidemiology and clinical expression of HIV infection in a high risk group (prostitutes) in the Philippines.
- To investigate the prevalence and geographic distribution of HTLV-I in the general population of the Philippines.
- To document neurological sequelae associated with Japanese encephalitis.
- To determine the annual incidence of dengue infections in school children in Manila.
- To characterize the risk of infection with the dengue viruses, Japanese encephalitis virus and chikungunya virus among the U.S. Military personnel and U.S. Peace Corps Volunteers residing in the Philippines.
- Determine if persistence of anti-chikungunya virus IgM antibody is correlated with arthralgia as a sequelae of chikungunya fever.

Accomplishments:

- Conducted over 30,000 tests for HIV antibody on prostitutes from throughout the Philippines.
- Determined the one year incidence (1986-1987) of HIV infection in prostitutes working in the Olongapo and Angeles City areas.
- Completed a case-control study on HIV infected prostitutes to determine the risk factors associated with infection and the clinical/immunological status of infected women.
- Found that a low prevalence of HTLV-I infection is present in the general population of the Philippines, but foci of much higher prevalence are present in some areas.
- Continued the serological monitoring for arboviral infections of U.S. Military personnel and U.S. Peace Corps Volunteers residing in the Philippines.

- Completed the fourth and final bleeding of approximately 3,000 school children in Manila in a long-term prospective study to determine the incidence of dengue infections.
- Characterized the clinical and serological parameters associated with an outbreak of chikungunya fever in Bacolod City on Negros Island.
- Documented long-term neurological sequelae in a group of Japanese encephalitis patients.

Presentations by members of the Virology Division in 1987:

Dr. C. G. Hayes:

- "The epidemiology of HIV infection in a high risk population (prostitutes) in the Philippines", 1st International Congress on AIDS in Asia, 24-26 November, 1987.
- "Acquired Immune Deficiency Syndrome (AIDS)", San Lazaro Hospital Training Seminar, 19 November 1987.
- "Recent knowledge on AIDS in the Philippines", Symposium on AIDS sponsored by the Philippine Association for the Advancement of Science, Inc., 17 September 1987.
- "Epidemiology of HIV infection in the Philippines", 5th Annual Asian Regional DOD Laboratory Conference, 8-12 June 1987.
- "Japanese encephalitis in the Philippines", 24th Annual Convention of the Philippine Pediatric Society, Inc., 5 May 1987.
- AIDS in the Philippines", 80th Philippine Medical Association Annual Convention, 21-24 May 1987.
- "AIDS, it's prevention, treatment and control", Arellano University, 18 February 1987.
- "The AIDS epidemic in the United States", The Philippine Society of Allergology and Immunology, 2 February 1987.

Dr. C. R. Manaloto:

- "AIDS - Philippine experience", Philippine Obstetrical and Gynecological Society Annual Convention, 2 December 1987.

- "Update on AIDS", Medical Residents Continuing Medical Education, University of Santo Tomas, 27 August 1987.
- "HIV infection epidemiology", Annual Postgraduate Course in Medicine, University of Santo Tomas, 25 July 1987.
- "Dengue hemorrhagic fever", Annual Postgraduate Course in Medicine, University of Santo Tomas, 22 July 1987.
- "AIDS Update", Paranaque Community Hospital, 1 July 1987.
- "Arboviral infections in the Philippines", Practical Pediatrics in the Pacific, San Lazaro Hospital, February 1987.

JAKARTA SCIENTIFIC DEPARTMENT

ENTOMOLOGY DIVISION - Jakarta

Mission: To investigate insect transmitted diseases of military importance in Asia; to study adult and larval behavior and habitats of vectors; to maintain a mosquito insectary for experimental use; to identify arthropods of medical importance; to test and evaluate equipment of importance to DOD vector control programs.

Current Research Interests:

- Longitudinal study of vector populations and malaria transmission in Irian Jaya, Indonesia.
- Surveillance of dengue vector populations in urban and rural areas of Java.
- Pilot projects for the control of dengue vectors using biological agents.
- Improvement of mass rearing procedures for Indonesian mosquito species.

Accomplishments

Malaria

- A year-round malaria vector surveillance program has been established in Arso, Irian Jaya.
- Resistance to DDT has been identified in the population of the most abundant vector, An. koliensis.
- Studies of indoor resting habits of vectors suggest that use of insecticide treated bed nets may be more effective than indoor residual spraying in blocking malaria transmission.

Dengue

- Completed year-long surveillance of dengue vectors in Jakarta. Identified population peak in November prior to an outbreak of dengue fever in the city.
- Initiated year round vector surveillance in a rural area of Central Java.

- Completed pilot project using Toxorhynchites splendens as a biological control agent of dengue vectors. Although some suppression of vector populations was seen, Tx. splendens did not bring about effective control.
- Studied ovipositional preferences of Tx. splendens in the field. Females do not oviposit in the types of containers in which dengue vectors are primarily found.

Mass Rearing

- Completed 18 generations of selection for reduced cannibalism in Tx. splendens.
- Documented inter-specific variation in rates of cannibalism in Toxorhynchites species.

IMMUNOLOGY DIVISION - Jakarta

Mission: To carry out research and development on the immunology of diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of clinical diseases; to maintain up-to-date diagnostic support capabilities; and to identify and characterize test sites for developing chemotherapy and immunoprophylaxis.

Current Research Interests:

- Humoral immune status of persons living in malarious areas.
- Search for correlations between immune status, age and length of residence in malarious areas.
- Studies of effects of P. falciparum antigens on blastogenesis of human leukocytes in vitro.
- Incidence of malaria at the study site, Arso PIR, Irian Jaya. This study is being performed in collaboration with other divisions of NAMRU-2 DET.
- In conjunction with the Division of Parasitology, the development of an assay designed to replicate the binding of P. falciparum parasitized erythrocytes to vascular endothelium.

Accomplishments:

- The prevalence of malaria in Arso PIR in November 1987 was 44.8%. A positive correlation exists between decreasing age and increasing prevalence of malaria. Increasing length of exposure correlated with a decrease in prevalence.
- Serum samples drawn from the Arso PIR malaria epidemiology study population are currently being subjected to analysis in ELISA and an immunofluorescent antibody technique for reactivity against fractionated whole cell homogenates of P. falciparum.
- Amelanotic melanoma cells (vascular endothelium substitutes) are being cultured. Development of an assay that replicates binding of parasitized erythrocytes to target cells continues.

MICROBIOLOGY DIVISION - Jakarta

Mission: To carry out basic and applied research and development on bacterial diseases of military importance in Indonesia; to obtain information on the epidemiology, diagnosis, pathophysiology, treatment, prevention and control of microbial, especially bacterial, diseases; provide clinical bacteriology diagnostic support for all Detachment endeavors and certain outside collaborators and organizations; and to specifically develop and apply rapid diagnostic tests and reagents for diarrheal and febrile microbial (bacterial, viral, and parasitic) diseases.

Current Research Interests:

- Collaborative study on the etiology of diarrheal disease with the Indonesian Navy. Study population based on active duty members and dependents hospitalized with severe diarrhea in the Navy Hospital, Jakarta.
- Testing of the IgA ELISA diagnostic technique for detection of Campylobacter specific IgA. This technique was developed through collaboration between researchers at NAMRU-2 DET and NAMRI.
- Development of rapid diagnostic technique for detecting rotavirus specific IgA in stool and urine. This technique is based on the same principles as the IgA ELISA for detection of Campylobacter.
- Collection of data on the antibiotic resistance patterns of major bacterial pathogens isolated from patients in Jakarta hospitals.
- Support of all field and hospital based studies requiring bacteriological analyses and provide diagnostic assistance and training to collaborating local hospital laboratories, the U.S. Embassy Health Unit, and Jakarta International School.
- Collaboration with researchers at WRAIR and University of Indonesia on a typhoid DNA probe.

Accomplishments:

- Developed a rapid diagnostic test for Campylobacter specific IgA (ELISA) found in stool and urine samples.
- Collected many samples of river water from various areas of Jakarta. Collecting and analyzing data at present time.

- Analyzing data gathered on antibiotic resistance patterns of major bacterial pathogens isolated from patients in Jakarta hospitals over a twelve-year period.
- Environmental studies have shown that certain metropolitan Jakarta surface waters are still severely polluted with actual enteric pathogens, e.g. S. typhi and other salmonellae. These studies complement a 1975 sampling of area surface waters.
- Completed preliminary study on the typhoid DNA probe samples obtained from the Infectious Diseases Hospital in Jakarta.

PARASITOLOGY DIVISION - Jakarta

Mission: To carry out research and development on parasitic diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of clinical diseases; to maintain up-to-date diagnostic support capabilities; and to identify and characterize test sites for developing chemotherapy and immunoprophylaxis.

Current Research Interests:

- Transmission of malaria in a transmigration village in remote north-eastern Irian Jaya in view of medical, immunologic, parasitologic, nutritional and sociologic characteristics of the population.
- Biology of malaria in relation to clinical and epidemiologic observations. Specifically, examining content, frequency, and intensity of malaria parasitemia in relation to clinical illness and immune status.
- Immune and parasitologic phenomena appearing with short-term and long-term exposure to malaria -- identification and correlation with susceptibility or resistance to development of life-threatening clinical illness.
- Study of patterns of resistance to chemotherapeutic or chemoprophylactic agents by Plasmodium falciparum.
- Identification of chemotherapeutic agents active against Wuchereria bancrofti, especially chemoprophylaxis.

Accomplishments:

- Javanese transmigrants in the hyperendemic village of Arso, Irian Jaya suffer parasitemias due to both P. vivax and P. falciparum more frequently than natives. This was true of all age groups except in children 2 to 5 years old.
- Javanese transmigrants probably contribute significantly to transmission of malaria in Arso PIR because they are far more likely to carry gametocytes than their Irianese neighbors.
- Greater numbers of transmigrants became ill with malaria, but this was only because greater numbers were parasitemic. Among smear positive people, transmigrants and Irians became ill with equal frequency.

- Although transmigrants and Irianese were approximately equally infected by Plasmodium vivax (proportionate to total infected), only transmigrants suffered illness due to this parasite. Illness among the Irianese was due almost exclusively to P. falciparum.
- No correlation was found between apparent immunity to blood stage parasites and antibody levels against antigens on the surface of red blood cells infected by P. falciparum. This argues against these antigens being considered as vaccine candidates.
- Approximately half of the P. falciparum parasites in Arso PIR showed resistance to a chemotherapeutic regimen of chloroquine. These occurred at the RI, RII and RIII levels, but most were RII.
- Ivermectin inhibited the in vitro molt of infective larvae of Wuchereria bancrofti at a concentration several orders of magnitude less than that required by diethylcarbamazine. The data suggest ivermectin may be effective for chemoprophylaxis against this filarial infection.

TROPICAL MEDICINE DIVISION - Jakarta

Mission: To carry out research and development on clinical diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of clinical diseases; to maintain up-to-date diagnostic support capabilities; and to identify and characterize test sites for developing chemotherapy and immunoprophylaxis.

Current Research Interests:

Malaria

- Collaborating with the Divisions of Parasitology, Immunology and Entomology in malaria epidemiology and immunology studies.

Dengue

- Determine risk factors for mortality in severe dengue hemorrhagic fever (DHF).
- Determine pathophysiology of severe DHF and dengue shock syndrome.
- Quantitate the physiologic effects of the current WHO treatment protocol.
- Prepare for a therapeutic trial in severe dengue disease.

Enteric Diseases

Typhoid

- Determine the relative efficacy of two formulations (liquid and capsule) of a Ty21a oral typhoid vaccine in a World Health Organization (WHO) sponsored trial in Plaju, Sumatera, Indonesia.

Cholera

- Test the efficacy of supplemented ORS in reducing secretory diarrhea in a WHO sponsored trial at the Infectious Diseases Hospital, Jakarta.

Accomplishments:

Malaria

- Results of collaborative studies reported in other Division Sections.

Dengue

- Work continued on development of the Clinical Research Center - Intensive Care Unit Program. The unit physical plant was completed, all necessary equipment was installed, and final preparations for opening the unit for patient care were successfully made. The unit will admit its first patient in early 1988.
- Project HOPE and the Rockefeller Foundation completed the first year of the training program to upgrade the medical skills of Indonesian physicians and nurses who will participate in our research programs.

Enteric Diseases

- An enteric coated capsule or liquid vaccine/buffer formulation of Ty21a oral typhoid vaccine were administered in a WHO sponsored field trial of vaccine efficacy. The overall efficacy of the liquid vaccine in preventing S. typhi disease was 44.5%; the efficacy of the capsule was 24.9%. Age specific trends were noted. The liquid, but not the capsule, was statistically superior to placebo. There was a trend to statistical superiority of the liquid over the capsule, but a longer period of observation will be required. The vaccine showed no effect against S. paratyphi A.
- Although there are statistical differences between the liquid vaccine and placebo, the overall efficacy does not make this a good vaccine for the conditions under which it was tested, i.e. high attack rate. We expect that the second year of observation will confirm these results.
- Plans are being formulated to carry out additional vaccine trials with other typhoid vaccines.

Cholera

- A double blind trial of the efficacy of glycine supplemented ORS to standard citrate based ORS in reducing gut secretion in cholera patients was completed. Results showed no significant decrease in the amount of stool output in patients treated with glycine ORS vs. regular ORS. There was a difference in the percent stool output in the two groups when compared to baseline, but this is not clinically significant.
- A trial of maltodextrin (rice-starch) supplemented ORS will be performed next year.

VIROLOGY DIVISION - Jakarta

Mission: To investigate and report viral diseases of military importance in Indonesia; to obtain information on the epidemiology, rapid diagnosis, pathophysiology, treatment and control of viral diseases; to assist local personnel in diagnosis of viral diseases; and to assist in routine surveillance of endemic viral diseases.

Current Research Interests:

- Epidemiology and diagnosis of dengue, dengue hemorrhagic fever (DHF) and dengue shock syndrome (DSS) in endemic Indonesian populations.
- Epidemiology and diagnosis of febrile viral diseases. Includes expatriate viral disease surveillance, sentinel animal studies and isolation of viruses from potential insect vectors.
- The collection of serum samples from humans, wild and domestic mammals to determine the presence of antibodies against known viruses of medical importance.
- The determination of endemicity of influenza in different populations on Java.
- The diagnosis of alphavirus infections using cell lines, mosquitoes and enzyme-linked immunosorbent assay in comparative studies.
- Rapid diagnosis of febrile and diarrheal diseases in Indonesia.
- Characterize the clinical presentation and viral etiology of dengue disease in Indonesia.
- Evaluate potential causes of the reported differences in dengue disease manifestations in different geographic locations.
- Evaluate the role of the dengue virus in causing encephalitis and encephalopathy.
- Determine the causes of encephalitis in Java and South Kalimantan.

Accomplishments:

- In a study of viral hemorrhagic fever at Sumber Waras Hospital, Jakarta, 680 patients have been evaluated. Dengue 3 is the predominant infecting virus to date. Dengue 1 and alphavirus isolates have also been obtained.

- Hantaan virus antibody studies in rodents in various parts of Indonesia indicate a widespread distribution of Hantaan-like viruses in Indonesia.
- Japanese encephalitis virus was isolated from Culicine mosquitoes in the Ungaran area. Serologic diagnosis of dengue infection in patients at the Ungaran hospital indicates dengue also occurs in the area.
- Sentinel animals in Jakarta have yielded one, yet unidentified, virus isolate. Serologic tests indicate the presence of alphaviruses in the area.
- Sentinel animals have been identified and tested for use in South Kalimantan.
- Expatriates have been identified and initial blood samples tested to monitor dengue infections in this group in Bogor. Dengue has been isolated and seroconversions have occurred in this group.

RESEARCH SUPPORT DEPARTMENT - Manila

Mission. To assist the Commanding Officer by ensuring that his orders, policies and mandates are carried out by close observation and coordination with all departments of the command; develop, plan and execute policy as it relates to the administrative functions of the command. Coordinate and filter all administrative input and output to and from the Commanding Officer; and establish sound administrative procedures for the smooth operation of the command.

Current interests:

- Management of in house facilities maintenance and repair capabilities aside from biomedical repair function.
- Upgrading of telecommunication both local at command level, intra-island (Luzon) capability and RP to US link.
- Oversight of programs aimed to increase compliance with OSHA, and other safety related concerns.
- Improvement of physical/personnel security to cope with existing threat of vandalism, theft, robbery, terrorism activities, etc.
- Increasing capability and efficiency of the transportation department by coordinating mission assignments and vehicular preventive maintenance requirements.
- Monitoring facets of all administrative process to identify fraud, abuse and waste and to implement programs to eliminate such deficiencies.

Accomplishments:

- Job related educational/training program for FSN/Enlisted/Officers staff - ongoing.
- Completed several habitability/efficiency/safety modifications of several command physical plant.
- Successfully negotiated arrangement with NAVFACPACDIV for replacement of all of our vans for functional 4 WD for field trip/research use.
- Provided administrative/logistical support for several long ranged inter-island research missions.
- Completed LSMP.
- Completed major manpower review.
- Completed position description of all military positions.

RESEARCH SUPPORT DIVISION - Jakarta

Mission. Assist the Officer in Charge in his responsibilities of ensuring all orders, policies, and directives of the Command are implemented and executed. Develop, monitor, and supervise all administrative programs, e.g., personnel management, fiscal and material management, and routine daily research support thereby establishing sound administrative procedures.

Current Interest:

- Improving Detachment communications.
- Improving Detachment morale.
- Improving physical plant security.
- Facilitating public relations with Embassy agencies.
- Ensuring the OIC is informed of all administrative matters impacting on his office.
- Ensuring the chain of command is utilized.
- Ensuring compliance with directives from higher authority.
- Compliance with the prompt payment act.
- Initiated a purchase order tracking method.

Accomplishments:

- Programmed the current laboratory renovation special project (14 laboratories ongoing).
- Programmed the complete renovation of the administrative spaces (completed).
- Completed the FSN conversion.
- Identified and reported a major fraud infraction.
- Successfully obtained a per diem increase for FSN grades 1-3 Embassy wide.
- Supervised the installation of the generator in Irian Jaya.
- Reduced telephone expenses by installing an electronic security lock which prevents abuse of long distance direct dialing capability.

FINANCE AND SUPPLY DIVISION

Mission. To support the scientific and other administrative divisions of the Command and its detachment by providing monetary and quantitative information and services which include:

- Converting research program requirements into budget and other financial plans.
- Maintaining civilian expenditure accounts.
- Maintaining obligation records and preparing financial reports.
- Providing accounting support for joint research projects.
- Reviewing, analyzing and reporting to the Commanding Officer and Department Heads the progress of performance against budgetary and financial plans.
- Maintaining plant property accounts.
- Coordinating internal review program for the command and the Detachment.
- Act as the authorized accounting activity (AAA) for the command and for the Detachment.
- Ordering, receiving, storing, and shipping all required materials.
- Administering supply procedures and preparing reports as directed by higher authorities.
- Providing necessary services to repair and modify items of medical and/or laboratory equipment.
- Managing the command's imprest fund.

Current Interests:

- Monetary savings for the command by creating an effective technical review section responsible for screening requisitions with regards to the availability of equipment/supply items through the Navy supply system, suppliers with government contract and effective bidding system.
- To meet all reporting requirements on time.
- To meet the mandated RDT&E obligation phasing plan by closely monitoring expenditures.

- To manage effectively and efficiently all RDT&E appropriations made available to this command.
- To monitor, detect and prevent waste, fraud and abuse within the command by having an effective internal control system and efficient internal control program.
- To coordinate closely with the U.S. Embassy and OICCSWP concerning services being provided to this command.

Accomplishments:

- Repair and renovation of Pavilion 9 was completed on April 1987. The Finance and Supply Division with the Transportation Section were finally moved to this building on July 1987. This move dramatically reduced, if not eliminated, the duplication of records and effort by this division. Presently, the Finance and Supply Division have the capability to conduct any financial and supply business in one location not like before. This capability contributes significantly to the overall efficiency of service to the different departments and divisions in this command.
- Animal House project is expected to be completed no later than the first week of February 1988. Although the contractor for this project went on strike last 21 September 1987, and still on strike up to this date, the construction of this project is ongoing. This was a direct result of the extensive negotiation made by the Finance Officer with the management and striking labor of this company.
- Completed the Rewiring Project of Entomology Building. This project brought the Entomology Division on-line with the existing safety rules and regulations.
- The ongoing Rewiring Project of NAMRU -2 Laboratories at San Lazaro Hospital spaces will also bring these laboratories in compliance with the current safety directives.
- Annual review of NAMRU-2 Detachment's operations.
- Internal review of transportation functions.
- Annual review of timekeeping function.
- Prepared the Command's comprehensive ADP Security Program as required by the Department of the Navy.
- Assisted and coordinated the required administrative support for the 5th Annual SEA DOD Laboratory Conference held in Baguio City.
- Successfully passed the recent IG inspection with minimal recommendations.

PART III

AWARDS, HONORS

AND

NOTABLE EVENTS

AWARDS AND HONORS

1987

LT John K. Baird, MSC, USNR, was presented the Defense Meritorious Service Medal for exceptional meritorious service for the Armed Forces of the United States.

CDR Fred P. Paleologo, MC, USNR, received a Navy Commendation Medal for outstanding medical support provided to the USSN Chauvenet and the Republic of Indonesia.

LT Eileen D. Franke, MSC, USNR, received a Navy Achievement Medal for outstanding accomplishment in immunoparasitology.

HMI Edmundo T. Pattawi, USN, received a Navy Achievement Medal for outstanding administrative contributions.

Mr. Soeroto Atmosoedjono, of the Entomology Division was presented the Foreign Service National of the Month Award by the U.S. Embassy for sustained superior performance of duty.

NOTABLE EVENTS OF 1987

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND INSPECTOR GENERALS' INSPECTION

This command successfully passed the NMRDC IG inspection during February 1987.

ASSISTED IN THE FIRST VISIT OF USNS MERCY TO RP

Several command personnel were directly involved in logistic support of USNS Mercy before her arrival and during the goodwill visit to the Republic of the Philippines in March 1987.

CONSTRUCTION OF ANIMAL CARE FACILITY

Construction of the new animal care facility was started in February 1987 in a vacant lot adjacent to Pavilion 9 and Pavilion 10. When completed, the facility will consolidate all animals required for research under one roof.

OCCUPANCY OF SAN LAZARO BUILDING

Renovation of Pavilion 9 which started in September 1985 was finally completed in May 1987. By July 1987 the Finance and Supply Division, Biomedical Repair Shop, Facilities Maintenance Shop and Transportation Division occupied new spaces in Pavilion 9.

DOD SOUTHEAST ASIAN LABORATORY

NAMRU-2 hosted the 5th Annual DOD Southeast Asian Laboratory Conference during June 1987 in Baguio, Philippines. Nestled high in the Cordillera's, the 38 attendees presented data and exchanged ideas for advancing DOD medical science in Asia.

NAMRU-2 DETACHMENT CHANGE OF OFFICER IN CHARGE

On 21 May 1987 CDR Fred P. Paleologo, MC, USNR, relieved CDR David C. Edman, MSC, USN as Officer in Charge of NAMRU-2 Detachment, Jakarta.

NAMRU-2 DETACHMENT/PROJECT HOPE ICU PROJECT

First occupancy of the joint NAMRU-2 Det/Project Hope ICU occurred in November 1987. High level of ICU occupancy is expected for the coming year 1988.

CO-SPONSORED FIRST AIDS MEETING IN ASIA

NAMRU-2 co-sponsored the 1st International Conference on AIDS in Asia during November 1987. The conference was highly successful in increasing education on the dreaded disease as well as exchange of research findings.

OTHER MEETINGS AND CONFERENCES ATTENDED BY NAMRU-2 MANILA STAFF IN 1987

WHO Working Group on Japanese Encephalitis Vaccines

Osaka, Japan, 4-8 February 1987.

Attendee: Dr. Curtis G. Hayes (Observer)

CINCPACFLT Tropical Medicine and STD Conference

Honolulu, Hawaii, 16-20 February 1987.

Attendee: LCDR George H. Watt (Lecturer)

Basic Management Methods and Skills

CCPO, Subic Bay, 9-13 March 1987.

Attendees: Soledad L. Bautista, Noemi M. Fernandez, Elsie P. De Jesus

Senior Officer Course in Military Justice

Naval Station, Subic Bay, 23-27 March 1987.

Attendee: CAPT Larry W. Laughlin

Data Base Tutorial

I/ACT Manila, 31 March - 4 April 1987.

Attendee: Ma. Cristina N. Baler

Data Base Programming

I/ACT Manila, 7 April - 8 May 1987.

Attendee: Ma. Cristina N. Baler

Effective English Workshop

OICC Manila, 20-24 April 1987.

Attendee: Alma Badillo, Rosemarie Vega

Advanced Cardiac Life Support Course

Naval Hospital, Cubi Point, 28 April - 1 May 1987.

Attendees: CAPT Larry W. Laughlin, Dr. M. Patricia Joyce

Seminar on Culture and Sensitivity of Microorganisms

Lung Center of the Philippines, 28 April 1987.

Attendee: Soledad L. Bautista

DBase III Training Program
UP NEC and UP Computer Center, 4 May - 1 June 1987.
Attendee: Myrna Y. Uyengco

Career Counseling Seminar
Naval Air Station, Cubi Point, 18-20 May 1987.
Attendee: HMC Ernie M. Lampa

III International Congress on AIDS
Washington, D.C., 30 May - 5 June 1987.
Attendee: Dr. Curtis G. Hayes

Philippine Atomic Energy Commission course on Radioimmunoassay
Manila, 1 - 5 June 1987 .
Attendee: Ms. S. Cruzada

Supervisors Training Role to Improve Employee Performance
CCPO, Subic Bay, 11 June 1987.
Attendee: Noemi M. Fernandez

5th Annual Southeast Asian DOD Laboratory Conference
Camp John Hay, Baguio City, 8 - 12 June 1987.
Attendees: CAPT Larry W. Laughlin, LCDR George H. Watt, LCDR Richard B.
Oberst, LT George W. Schultz, LT Marc A. Laxer, Dr. Curtis G.
Hayes, Dr. M. Patricia Joyce

Career Counseling Information and Education Training Course
Naval Air Station, Cubi Point, 22-24 June 1987.
Attendees: HMI Rodrigo Reyes, HMI Cheryl Miller, HMI Edgardo Montoya

Training on Diagnostic Test for Meliodiosis
Bangkok, Thailand, 28 June - 5 July 1987.
Attendee: Teresa Q. Ponio

COI GSM-200, Accident Investigation, Reporting and Analysis
Subic Bay, 6-17 July 1987.
Attendee: HMCS Michael D. Malizio

Working Group on Viral Haemorrhagic Fever and Viral Neurological Diseases
Seoul, Korea, 23-26 August 1987.
Attendee: Dr. Curtis G. Hayes (Observer)

Introduction to DON ADP Security Training
CCPO, Subic Bay, 30 August - 4 September 1987.
Attendees: LT Danilo L. Yu, Roberto M. Asuncion

3rd International Congress on Malaria and Babesiosis
Annecy, France, 5-11 September 1987.
Attendee: LCDR Richard B. Oberst

Microcomputer Workshop
CCPO, Subic Bay, 14-25 September 1987.
Attendee: HMC Ernie M. Lampa

Human Relations Training
CCPO, Subic Bay, 21-25 September 1987.
Attendee: Vivian V. Reyes

Microcomputer Workshop
CCPO, Subic Bay, 27 September - 9 October 1987.
Attendees: HMC Edilberto Corpuz, HMI Rodrigo Reyes

23rd Annual Conference of Philippine Association of Medical Technologists, Inc.

Philippine International Convention Center, 2-3 October 1987.

Attendees: Shirley F. Cruzada, Patricia S. Macalagay, Tessie L. Gavina, Soledad L. Bautista, Natividad T. Ramilo, Lily M. Alquiza, Sulpicio Zabala, Jr., Teresa Q. Ponio, Ma. Fe Baraceros, Jenny Lu, Marie Lopez, Ma. Teresa Erazo, Sheila Mangalonzo, Rosario Santos, Caroline Castillo, Senen Descalzo, Dolores Batula, Cleotilde Torres, Rolando Tubongbanua

Cebu Chapter of PSMID Meeting

Cebu City, 2-4 October 1987.

Attendee: Dr. M. Patricia Joyce (Guest speaker)

Microcomputer Workshop
CCPO, Subic Bay, 11-23 October 1987.
Attendee: HMI Boccaccio B. Aying

NMRDC Commanding Officer's Conference

Bethesda, Maryland, 18-20 November 1987

Attendees: CAPT Larry W. Laughlin, HMCS Michael D. Malizio

6th Annual Army-Navy Infectious Disease Research Laboratory Commander's Conference

Bethesda, Maryland, 23-24 November 1987

Attendee: CAPT Larry W. Laughlin

1st International Congress on AIDS in Asia

Philippine International Convention Center, 24-26 November 1987.

Attendee: Dr. Curtis G. Hayes, HMC James Hartman, Cleotilde Torres, Ma. Teresa Erazo, Sheila Mangalonzo, Rosario Santos, Caroline Castillo, Senen Descalzo, Dolores Batula, Teodoro Bautista, Rolando Tubongbanua

Entomological Society of America Meeting

Boston, Massachusetts, 26 November - 4 December 1987.

Attendee: LT George W. Schultz

American Society of Tropical Medicine and Hygiene Meeting

Los Angeles, California, 29 November - 3 December 1987.

Attendees: CAPT Larry W. Laughlin, LCDR Richard B. Oberst, LT Marc A. Laxer, Dr. Nunilon E. Sy

PRESENTATIONS BY NAMRU-2 JAKARTA STAFF IN 1987

- Franke, E.D., Riberu, W. and Wiady, I. Growth and development of third-stage larvae of Wuchereria bancrofti in culture. Upjohn - UCLA Symposium: "Molecular Paradigms for Eradicating Helminthic Parasites", Steamboats Springs, Colorado, 24-31 January 1987.
- Simanjuntak, C.H., Hoffman, S. L., Punjabi, N.H., Edman, D.C., Hasibuan, M.A., Sumarmo, W. and Koiman, I. Epidemiology of typhoid fever in a rural area in Paseh, West Java. Infectious Disease Seminar, Jakarta, 23-24 February 1987.
- Simanjuntak, C.H., Paleologo, F.P., Punjabi, N.H., Soeprawoto, Darmowigoto, R., Budiarmo, R.L., and Edman, D.C. Oral Ty21A Salmonella typhi vaccine trial at Pertamina Complex, Plaju. Infectious Disease Seminar, Jakarta, 23-24 February 1987.
- Tjitra, E., Lewis, A., and Soeroto, A. Community participation in malaria control in Robek, East Nusa Tenggara. Infectious Disease Seminar, Jakarta, 23-24 February 1987.
- Rubin, F.A., Kopecko, D.J., Sudarmono, P., Moechtar, M.A., Edman, D.C. and Hoffman, S.L. DNA probe detection of Salmonella typhi from clinical isolates from Indonesia. 26th Interscience Conference on Antimicrobial Agents and Chemotherapy, April 1987 (Reported by Dr. Edman).
- Punjabi, N.H., Paleologo, F.P., Sumarmo, Harun, S.R., Bartz, C.R., Edman, D.C., Basri, H., Sukri, N., Sukri, T., Suharyono, and Laughlin, L.W. Pengamatan penderita demam berdarah (DHF/DSS) di bag. IKA, FKUI/RSCM, Jakarta. VII Indonesian National Congress of Child Health, Jakarta, 11-15 September 1987.
- Harun, S.R., Paleologo, F.P., Sumarmo, Nathin, M.A., Punjabi, N.H., Edman, D.C., Masyhur, M., Malik, M.S. Titer serologi dasar HI virus dengue pada anak selokah di Jakarta. VII Indonesian National Congress of Child Health, Jakarta, 11-15 September 1987.
- Simanjuntak, C.H., Paleologo, F.P., Punjabi, N.H., Suprawoto, Bartz, C.R., Pujarwoto, Harjining, S., Nancy, P., Supriatman, M. Penerimaan anak-anak umur 3-8 tahun terhadap vaksin telan tifoid Ty21a. VII Indonesian National Congress of Child Health, Jakarta, 11-15 September 1987.
- Paleologo, F.P., Punjabi, N.H., Bartz, C.R., Harun, S.R., Sumarmo, Sukri, T., Nukri, N., and Basri, H. Seroepidemiology of antibody to dengue virus among Jakarta school children. 36th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Los Angeles, California, 29 Nov - 3 Dec 1987.

- Punjabi, N.H., Paleologo, F.P., Simanjuntak, C.H., Suprawoto, Bartz, C.R., Pujarwoto, T., Harjining, S., Pujoprawoto, N., and Supriatman, N. Acceptability and side effects of Ty21a oral typhoid vaccine in 3 to 8-year old Indonesian children. 36th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Los Angeles, California, 29 Nov - 3 Dec 1987.

- Bartz, C.R., Tan, R., Chairin, and M. Haksohusodo. Dengue virus isolation, 1983-1986, Yogyakarta, Java, RI. 36th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Los Angeles, California, 29 Nov - 3 Dec 1987.

- Franke, E.D., Lane, E.M., Purnomo, and Sudomo, M. Ovalocytosis and malaria in residents of three villages in Napu Valley, Central Sulawesi, Indonesia. 36th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Los Angeles, California, 29 Nov - 3 Dec 1987.

- Franke, E.D., Ratiwayanto, S. and Hadiputranto, H. In vitro cellular and humoral immune responses of residents of malarious areas in Indonesia to candidate malaria vaccine antigens. 36th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Los Angeles, California, 29 Nov - 3 Dec 1987.

- Annis, B.A., Bartz, C.R. and Atmosoedjono, S. Exposure of American personnel on official assignment in Jakarta, Indonesia, to mosquito-borne viruses. 36th Annual Meeting of the American Society of Tropical Medicine and Hygiene, Los Angeles, California, 29 Nov - 3 Dec 1987.

1987 FIELD TRIPS
Philippines

6-20 Jan 87	Napsan, Palawan	Malaria field site research
11-13 Jan 87	Olongapo City	Blood extraction on hospitality girls
11-17 Jan 87	Olongapo City	Blood extraction on hospitality girls
13-14 Jan 87	Pundakit, Zambales	Malaria study; collection of mosquito vectors
18-24 Jan 87	Olongapo City	Blood extraction on hospitality girls
25-31 Jan 87	Olongapo City	Blood extraction on hospitality girls
28-29 Jan 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis study
2-14 Feb 87	Olongapo City	Blood extraction of hospitality girls for HTLV-III study
3-5 Feb 87	Lake Victoria, Eastern Mindoro	Reestablish source for collecting schistosomiasis-infected snails
6 Feb 87	Calbayog, Samar	Liaison with USNS Mercy
9-10 Feb 87	Pundakit, Zambales	Malaria study; collection of vectors
11-12 Feb 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis study
15-21 Feb 87	Olongapo City	Blood extraction of hospitality girls for HTLV-III study
17-19 Feb 87	Tipo & Pastolan, Bataan	Malaria study; collection of mosquito vectors

22-28 Feb 87	Olongapo City	Blood extraction of hospitality girls for HTLV-III study
23-24 Feb 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis study
26-27 Feb 87	Pundakit, Zambales	Malaria study; collection of vectors
2-3 Mar 87	Subic City, Zambales	Malaria study; collection of mosquito vectors
2-4 Mar 87	Puerto Princesa/ Napsan, Palawan	Deliver medicines for malaria and discuss malaria studies with MES, Palawan
2-6 Mar 87	Pundakit, Zambales	Malaria prophylaxis study
4-5 Mar 87	Gordon Heights, Bataan	Malaria study; collection of mosquito vectors
9-11 Mar 87	Green Beach, Zambales	Malaria study; collection of vectors
9-11 Mar 87	Pundakit, Zambales	Malaria prophylaxis study
11-12 Mar 87	Zamboanga & Jolo	Plan for malaria study
12-13 Mar 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis study; collection of mosquito vectors
16-18 Mar 87	Pundakit, Zambales	Malaria prophylaxis study
17-18 Mar 87	Naval Magazine, Subic Bay	Malaria field trip; collection of vectors
19-20 Mar 87	Bacolod City	Follow-up study on Chikungunya
19-20 Mar 87	Pundakit, Zambales	Malaria field trip; collection of vectors
23-25 Mar 87	Pundakit, Zambales	Malaria prophylaxis study
25-26 Mar 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis field trip; collection of vectors

30 Mar-1 Apr 87	Pundakit, Zambales	Malaria prophylaxis study
30 Mar-15 Apr 87	Puerto Princesa/ Napsan, Palawan	Malaria field site research
6-8 Apr 87	Pundakit, Zambales	Malaria prophylaxis study
9-10 Apr 87	Pundakit, Zambales	Malaria field trip; collection of vectors
13-15 Apr 87	Pundakit, Zambales	Malaria prophylaxis study
20-22 Apr 87	Pundakit, Zambales	Malaria prophylaxis study
20-30 Apr 87	Zamboanga & Jolo	Evaluation of Fansidar ^R - resistant falciparum malaria (HIV study)
21-22 Apr 87	Zamboanga City	Liaison with USNS Mercy
21-22 Apr 87	Sto. Domingo, Nueva Ecija	Collection of vectors
27-28 Apr 87	Pundakit, Zambales	Malaria field trip; collection of vectors
27-29 Apr 87	Pundakit, Zambales	Malaria prophylaxis study
4-6 May 87	Pundakit, Zambales	Malaria prophylaxis study
4-6 May 87	Green Beach, Zambales	Collection of malaria vectors
12-14 May 87	Pundakit, Zambales	Malaria prophylaxis study
13-14 May 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis study; Collection of vectors
17-20 May 87	Angeles, Pampanga	Preparation of records and bleeding of hospitality girls
18-19 May 87	Pundakit, Zambales	Malaria field trip; collection of vectors
18-20 May 87	Pundakit, Zambales	Malaria prophylaxis study
19-24 May 87	Puerto Princesa/ Napsan, Palawan	Construction of entomology outpost

21-22 May 87	Pastolan, Bataan	Malaria study
26-27 May 87	Tipo, Bataan	Malaria project
26-28 May 87	Pundakit, Zambales	Malaria prophylaxis study
28-29 May 87	Naval Magazine, Subic Bay	Malaria project
1-2 Jun 87	Subic City, Zambales	Malaria project
1-3 Jun 87	Pundakit, Zambales	Malaria prophylaxis study
1-5 Jun 87	Bacolod City	To bleed Chikungunya patients
3-4 Jun 87	Sto. Domingo, Nueva Ecija	Japanese encephalitis study
8-10 Jun 87	Pundakit, Zambales	Malaria prophylaxis study
17-19 Jun 87	Pundakit, Zambales	Malaria prophylaxis study
23-24 Jun 87	Pundakit, Zambales	Malaria study
23-25 Jun 87	Pundakit, Zambales	Malaria prophylaxis study
24-25 Jun 87	Gordon Heights, Olongapo City	Malaria study
29-30 Jun 87	Wawa, Montalban	Malaria study
29 Jun-1 Jul 87	Pundakit, Zambales	Malaria prophylaxis study
1-2 Jul 87	Tipo, Bataan	Malaria study
6-7 Jul 87	Montalban, Rizal	Malaria study
13-14 Jul 87	Antipolo, Rizal	Malaria study
23 Jul-9 Aug 87	Puerto Princesa/ Napsan, Palawan	Malaria field research site work
12-13 Aug 87	Pastolan, Bataan	Preview of malaria study site
16-21 Aug 87	Pastolan, Bataan	Malaria/parasite survey of Negritos
27 Oct 87	Olongapo, Zambales	Gonorrhea study

3 Nov 87	Olongapo, Zambales	Gonorrhea study
10 Nov 87	Olongapo, Zambales	Gonorrhea study
17 Nov 87	Olongapo, Zambales	Gonorrhea study
24 Nov 87	Olongapo, Zambales	Gonorrhea study
1 Dec 87	Olongapo, Zambales	Gonorrhea study
8 Dec 87	Olongapo, Zambales	Gonorrhea study
18-20 Dec 87	Puerto Princesa/ Napsan, Palawan	Deliver generator and meet with residents of Napsan

1987 FIELD TRIPS
Jakarta Detachment

12-15 Jan 87	Cibodas	Collect rodent, bat and bird samples
2-13 Feb 87	Jayapura	Generator installation
2-7 Mar 87	Sulawesi	Ovalocytosis and malaria study
14-22 Mar 87	Yogyakarta	Collection of viral samples, sera, mosquitoes, rodent, throat swabs
28 Mar - 4 Apr 87	Yogyakarta	Follow-up sera samples
15-16 Apr 87	Plaju, Palembang	Typhoid vaccine trial
3-6 May 87	Semarang, Yogyakarta	Initiate dengue vector field study
5-19 Jul 87	Jayapura, Timika	Malaria research field trip, select new site for epidemiology study
1-4 Sept 87	Salatiga	Dengue research field trip
25 Sep - 10 Oct 87	Jayapura, Arso	Malaria research field trip
27 Sep - 10 Oct 87	Jayapura, Arso	Malaria research field trip
1 Nov - 5 Dec 87	Jayapura, Arso	Malaria research field trip
24-28 Nov 87	Yogyakarta	Collection of serum from dengue patients
29 Nov - 3 Jan 88	Jayapura, Arso	Malaria incidence study

PART IV

DISTINGUISHED VISITORS

AND FELLOWS

DISTINGUISHED VISITORS

1987

Manila Headquarters

Dr. E. Russell Alexander	Division of Sexually Transmitted Diseases Centers for Disease Control
LT Barry A. Annis	Head, Entomology Division NAMRU-2 Detachment
LT Stephen Bane	Flight Surgeon VMA (AW) 242
LTC Curtis R. Bartz	Veterinarian/Virologist NAMRU-2 Detachment
Diou Beu	Liverpool School of Tropical Medicine England
COL Joel Brown	Chief, Infectious Disease Service Tripler Army Medical Center
Suzanne D. Chrismer	Peace Corps
Dr. John H. Cross	Department of Preventive Medicine and Biometrics Uniformed Services University of Health and Sciences
MAJ Donald R. Davis	Chief, Dept. of Clinical Epidemiology U.S. Army Medical Research Unit
Dr. Donald R. Delorme	Chief, Dept. of Entomology U.S. Army Medical Research Unit
LTC Peter Echeverria	Armed Forces Research Institute of Medical Sciences
CDR David C. Edman	Officer in Charge (detached) NAMRU-2 Detachment
Dr. Gerald W. Fischer	Director, Pediatric Infectious Diseases Uniformed Services University of Health & Sciences
LT Eileen D. Franke	Microbiologist (detached) NAMRU-2 Detachment

LTC Dave R. Franz	Executive Officer & Chief, Department of Laboratory Animal Resources U.S. Army Medical Research Unit
CDR L. Michael Fraser	Director, Facilities & Equipment Management Naval Medical Research & Development Command
CAPT Donald E. Furry	Executive Officer, Naval Medical Research & Development Command
Mr. Tony Gochar	Assistant Director U.S. Veterans Administration, Manila
LCDR Murriel E. Goodloe	Director, Hospital Administration Naval Hospital, Subic
LTC Bradford S. Goodwin, Jr.	Special Assistant for Veterinary Medicine Naval Medical Research & Development Command
CPT Ralph E. Harbach	Armed Forces Research Institute of Medical Sciences
Dr. Richard W. Harbison	Chief, Pediatric Infectious Diseases Wilford Hall USAF, Lackland AFB, TX
MAJ Gregory B. Heisey	Armed Forces Research Institute of Medical Sciences
LCDR D. H. Hofflinger	Director of Finance Naval Medical Research & Development Command
Marcel Hommel	Liverpool School of Tropical Medicine
Dr. Kenneth Hyams	NAMRU-3, Cairo
MAJ Bruce L. Innis	Armed Forces Research Institute of Medical Sciences
MAJ Jerome J. Karwacki	Armed Forces Research Institute of Medical Sciences

MAJ Daryl Kelly

CAPT Michael E. Kilpatrick

CPT Chris Lambros

LT Edward M. Lane

Flor Lara

Dr. R. Lasserre

Rae A. Leeth

RADM Theodore E. Lewin

LTC George E. Lewis, Jr.

LT Randall C. Mapes

LCDR Bruce Merrell

Dr. James G. Olson

LT John Oprandy

CDR Fred P. Paleologo

D.O. Percell

Mrs. Sheila Platt & company

USNS Mercy

Infectious Disease Program Manager
Naval Medical Research & Development
Command

Chief, Dept. of Parasitology &
Immunology
U.S. Army Medical Research Unit

Head, Microbiology Division
NAMRU-2 Detachment

VA-OPC Chief of Staff
U.S. Veterans Administration, Manila

Roche Asian Research Foundation

Occupational Health Nurse
Peace Corps

Commander
U.S. Naval Forces, Philippines

Commander
U.S. Army Medical Research Unit

Flight Surgeon
Naval Hospital, Subic

EPMU-6, Hawaii

Program Manager
National Academy Sciences

Biotechnology Division
Infectious Disease Department
Naval Medical Research Institute

Officer in Charge
NAMRU-2 Detachment

VA-OPC Chief of Medical Administration
U.S. Veterans Administration, Manila

U.S. Embassy, Manila

CDR Eugene Pon	Epidemiologist EPMU-6
Minister Kenneth Quinn	Deputy Chief of Mission U.S.. Embassy, Manila
S. Schuler	U.S. Agency for International Development Manila
LT Luisa Skoble	Flight Surgeon VC-5, Naval Air Station, Cubi Point
COL Frank Sodetz	Director Armed Forces Research Institute of Medical Sciences
ENS Philip F. Stanley	Medical Student Candidate Uniformed Services University of Health and Sciences
MAJ David N. Taylor	Armed Forces Research Institute of Medical Sciences
LT Ivory W. Taylor	Administrative Officer NAMRU-2 Detachment
Dr. Richard J. Thomas	Preventive Medicine Officer USNS Mercy
Dr. Paul D. Tveten	Health Physicist Naval Environmental Health Center, Norfolk
MAJ Kyle Webster	Armed Forces Research Institute of Medical Sciences
Mark White	FETP, Centers for Disease Control
Dr. Rick Williams	Member, University of Hawaii Task Force on AIDS
Theresa H. Vandervlugt	Chief, Medical Operations Peace Corps

DISTINGUISHED VISITORS

1987

Jakarta Detachment

CAPT Donald E. Furry	Executive Officer, Naval Medical Research & Development Command
CAPT Michael E. Kilpatrick	Infectious Disease Program Manager Naval Medical Research & Development Command
CDR G. R. Brown	Naval Military Personnel Command
CDR L. Michael Fraser	Director, Facilities & Equipment Management Naval Medical Research & Development Command
LTC Bradford S. Goodwin, Jr.	Special Assistant for Veterinary Medicine Naval Medical Research & Development Command
LCDR D. H. Hofflinger	Director of Finance Naval Medical Research & Development Command
Dr. Curtis G. Hayes	Chief Scientist NAMRU-2
Mr. Kenneth Ando	Housing Specialist PACDIV

FELLOWS AND TRAINEES
(Manila)

PSMID FELLOWS

Dr. Victor A. Ranin	Entomology Division 1 Jan 87 - 30 Sep 87
Dr. Dennis P. Maducdoc	Virology Division 1 Jan 87 - 7 Jul 87
Dr. Marivyl Javato	Microbiology Division 1 Jan 87 - 25 Jun 87
Dr. Evangeline A. Oliman	Virology Division 3 Jul 87 - 88
Dr. Danilo M. Menorca	Microbiology Division 15 Jul 87 - 88
Dr. Leonardo Santos	Tropical Medicine Division 1 Jun 87 - 88
Dr. Reynaldo V. Galban	Parasitology Division 1 Jun 87 - 88

TRAINEES/EXTERNS

Ma. Luví Policarpio	University of Sto. Tomas
Rodelio Rosales	University of Sto. Tomas
Morena Plata	University of Sto. Tomas
Grace Aclan	Manila Central University
Vivian Austria	Centro Escolar University
Ma. Dolores Agnes Calicdan	Centro Escolar University
Marfi Yap	University of the Philippines - CPH
Elizabeth Pante	Philippine Women's University

Melchor Noe	De Ocampo Memorial College
Vicky Salvante	Philippine Women's University
Ma. Theresa Corpuz	University of Sto. Tomas
Ma. Luzviminda Cruz	University of Sto. Tomas
Mylene Calalang	University of Sto. Tomas
Ma. Elba Bobiles	University of Sto. Tomas
Ma. Arlene Emborgo	University of Sto. Tomas
John Alden Liboon	Southwestern University
Helen Joves	University of Sto. Tomas
Brendalyn Feraer	Philippine Women's University
Rona Ramos	University of Sto. Tomas
Luzyla Borbon	Philippine Women's University
Mary Joann Liwanag	Far Eastern University
Carlo Viray	University of Sto. Tomas
Estrella Corpuz	University of Sto. Tomas
Juanito Valencia	San Juan De Dios College
Ma. Cecil Cruz	Centro Escolar University
Rosalinda Patricio	University of Sto. Tomas
Emerita Delos Santos	University of Sto. Tomas

PART V

PUBLICATIONS

PUBLICATIONS
Manila and Jakarta

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PART VI

FUNDED RESEARCH WORK UNITS

FUNDED RESEARCH WORK UNITS

Manila

1498 Work Units

- a. 3M161102BS10;AK211 "Basic studies on infectious diseases of military importance"
- b. 3M162770A870;AN221 "Prevention and treatment of infectious diseases of military importance"
- c. 3M162770A870;AQ220 "Technology development on rapid diagnosis of infectious diseases of military importance"
- d. 3M161102BS10;AD210 "Vector transmission of infectious diseases of military importance"

Independent Research Work Units

- a. MR00001.01-0001.01 "Chikungunya fever in the Philippines"
- b. New Cryptosporidiosis in a remote area of the Philippines"
- c. New "Evaluation of the ability of some Indonesian Orbi/orbi-like viral isolates to interfere with the vivo replication of Japanese encephalitis virus"

Jakarta

1498 Work Units

- a. 3M161102BS10;AK411 "Basic studies on infectious diseases of military importance"
- b. 3M162770A870;AN420 "Prevention and treatment of infectious diseases of military importance"
- c. 3M162770A870;AQ420 "Technology development on rapid diagnosis of infectious diseases of military importance"

- d. 3M161102BS10;AD410 "Vector transmission of infectious diseases of military importance"

Independent Research Work Units

- a. MR000.01.01-2105 "Effects of the amount of virus ingested upon the ability of Culex tritaeniorhynchus to transmit Japanese encephalitis"

PART VII

HISTORY OF SAN LAZARO HOSPITAL

HISTORY OF SAN LAZARO HOSPITAL

Founded as a dispensary in Intramuros by Fray Juan Clemente, 1577. Became a hospital, 1578. Taken over by the Hermandad dela Misericordia, 1596. Transferred to a new building at the premises of the Philippine Normal College, becoming the San Lazaro Hospital, 1631. Turned over to the Hermanos de San Juan de Dios, May 13, 1656. Building was demolished for the protection of the city against the invasion of Chinese pirates, 1662. Transferred to another building nearby, constructed by Fray Fernando dela Concepcion, 1675. Moved to a building in the present compound, 1784. Enlarged, 1785. Further improved by Fray Felix de Huerta who built a chapel and enclosed the premises with stone wall, 1859. Taken over by the Americans, 1898 and became a Contagious Disease Hospital.

Originally used for the treatment of lepers and venereal diseases, diarrhea, smallpox and bubonic plague victims at the turn of the 20th century. Burned in 1903, rebuilt in 1904 with wooden pavilions partly for an insane asylum.

Beautified, enlarged and new buildings constructed on March 5, 1921. With the transfer of the insane patient to the National Psychopathic Hospital in 1930, the building was occupied by lepers, admitted Prisoners of War sick of malaria and dysentery on January 2, 1942. In 1945, took care of hundreds of civilian war casualties. When peace and order was restored and lepers were moved to the Tala Leprosarium in 1949, the hospital resumed normal activities and confined to services to other communicable disease up to the present.

SAN LAZARO ADMINISTRATORS

1863	-	Fr. Felix Huertas
1894	-	Fr. Mariano Martinez
1898	-	Fr. Teodoro Fernandez Domingo Pacheco
1899	-	Panfilo Jorge Vicente Aguirre
1901	-	Adolf Schrage and Edward Halgreen
1902	-	Dr. C.F. De Mey
1903	-	Dr. J.M Bigger and Dr. H.S. Wilkinson
1906-1917	-	Dr. Almong Goff, Dr. R.L. Newborne, A.C. Gaston, Thomas W. Jackson and W.K. Betty
1918-1919	-	Dr. Florentino Ampil
1920	-	Dr. Andres Catanjal
1921-1948	-	Dr. Catalino Gavino
1948-1959	-	Dr. Felix Velasco
1960-1984	-	Dr. Cesar V. Uylangco
1984-present	-	Dr. Catherine P. Ranoa

